

Form I-PO-1449 <b>INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION</b> (Use several sheets if necessary)			Docket Number (Optional) MTV-033.01	Application Number 09/901,466		
			Applicant Stephen J. Lippard et al.			
			Filing Date July 9, 2001	Group Art Unit 1641		
<b>U.S. PATENT DOCUMENTS</b>						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
MIC	A1 4,510,251	04/09/1985	Kirkemo et al.	436	536	11/08/1982
MIC	A2 5,756,771	05/26/1998	Mattingly	549	223	05/22/1995
MIC	A3 5,986,094	11/16/1999	Ghoshal et al.	544	230	04/18/1997
MIC	A4 6,013,802	01/11/2000	Hoyland et al.	546	18	02/07/1997
MIC	A5 6,063,637	05/16/2000	Arnold et al.	436	73	07/07/1997
MIC	A6 6,083,758	07/04/2000	Imperiali et al.	436	73	04/09/1997
<b>FOREIGN PATENT DOCUMENTS</b>						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO
B1						
<b>OTHER DOCUMENTS</b> <i>(Including Author, Title, Date, Pertinent Pages Etc.)</i>						
MIC	C1	Dan Atar et al., "Excitation-Transcription Coupling Mediated by Zinc Influx through Voltage-dependent Calcium Channels", <i>The Journal of Biological Chemistry</i> , Vol. 270, No. 6, pp. 2473-2477 (1995)				
MIC	C2	Elena Belgodere et al., "Imidazolecarboxylic Acids and Their Derivatives. Synthesis of 10H-Imidazo [1, 5-a] Pyrido[1, 2-d]Pyrzin-10-One, A Novel Ring System", <i>Heterocycles</i> , Vol. 23, No. 2, (1985)				
MIC	C3	T. Budde et al., "Imaging Free Zinc In Synaptic Terminals In Live Hippocampal Slices", <i>Neuroscience</i> , Vol. 79, No. 2, pp. 347-358 (1997)				
MIC	C4	Shawn C. Burdette et al., "Fluorescent Sensors for Zn <sup>2+</sup> Based on a Fluorescein Platform: Synthesis, Properties and Intracellular Distribution", <i>J. Am. Chem. Soc.</i> , Vol. 123, No. 32, pp. 7831-7841 (2001)				
MIC	C5	L.M.T. Canzoniero et al., "Measurement of Intracellular Free Zinc in Living Neurons" <i>Neurobiology of Disease</i> , Vol. 4, Article No. NB970160, pp. 275-279 (1997)				
MIC	C6	Dennis W. Choi et al., "Zinc And Brain Injury", <i>Annu. Rev. Neurosci.</i> , Vol 21, pp. 347-375 (1998)				
MIC	C7	Math P. Cuajungco et al., "Zinc Metabolism in the Brain: Relevance to Human Neurodegenerative Disorders" <i>Neurobiology of Disease</i> , Vol. 4, Article No. NB970163, pp. 137-169 (1997)				
MIC	C8	M. M. da Mota et al., "The Co-ordination Number to Transition-metal Ions. Part VII. An Evaluation of Steric Factor Factors in the Stabilisation of High-spin Five-coordinate Nickel(II) Complexes of Mutidendate $\alpha$ -Pyridyl Ligands" <i>J. Chem. Soc.</i> , pp. 2036-2044 (1969)				
MIC	C9	A. Prasanna de Silva et al., "Signaling Recognition Events with Fluorescent Sensors and Switches", <i>Chemical Reviews, American Chemical Society</i> , Vol. 97, No. 5, pp. 1515-1566 (1997)				
MIC	C10	M. Ebadi et al., "Amino Acid Composition, Immunoreactivity, Sequence Analysis, and Function of Bovine Hippocampal Metallothionein Isoforms" <i>Journal of Neurochemistry</i> , Vol. 66, No. 5, pp. 2121-2127 (1996)				
MIC	C11	R. L. Evans et al., "Synthesis of $\gamma$ -Aminobutyryl- $\gamma$ -aminobutyric Acid", <i>The Journal of Organic Chemistry</i> , Vol. 24, pp. 863-864 (1959)				

Mary E. Ceserley 12/26/02

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		Applicant Stephen J. Lippard et al.	
		Filing Date July 9, 2001	Group Art Unit 1645 / 1641
<p style="text-align: center;"><i>O I P E</i> <i>FEB 11 2002</i> <i>PATENT &amp; TRADEMARK OFFICE</i></p>			
<i>MJC</i>	C12	Christoph J. Fahmi et al., "Aqueous Coordination Chemistry of Quinoline-Based Fluorescence Probes for the Biological Chemistry of Zinc", <i>J. Am. Chem Soc.</i> , Vol 121, No. 49, pp. 11448-11458 (1999)	
<i>MJC</i>	C13	Andrew L. Feig et al., "A Carboxylate-Bridged Non-Heme Diiron Dinitrosyl Complex" <i>Inorganic Chemistry, American Chemical Society</i> , Vol. 35, No. 23, pp. 6892-6898 (1996)	
<i>MJC</i>	C14	C. J. Frederickson et al., "A quinoline fluorescence method for visualizing and assaying the histochemically reactive zinc (bouton zinc) in the brain", <i>Journal of Neuroscience Methods</i> , Vol. 20, pp. 91-103 (1987)	
<i>MJC</i>	C15	Christopher J. Frederickson, "Neurobiology of Zinc and Zinc-Containing Neurons", <i>International Review of Neurobiology</i> , Vol. 31, pp 146-238 (1989)	
<i>MJC</i>	C16	C. J. Frederickson et al., "Zinc-Containing Neurons", <i>Biological Signals</i> , Vol. 3, pp. 127-139 (1994)	
<i>MJC</i>	C17	von Giorgio Anderegg et al., Pyridinderivate als Komplexbildner. XI Die Thermodynamik der Matllkomplexbildung mit Bis-, Tris- und Tetrakis [(2-pyridyl)methyl]aminen", <i>Helvetica Chimica Acta</i> , Vol. 60, Fasc. 1, pp. 123-140 (1977)	
<i>MJC</i>	C18	Vasiliy Goral et al., "Double-level "orthogonal" dynamic combinatorial libraries on transition metal template", <i>Proceedings of the National Academy of Sciences</i> , Vol. 98, No. 4, pp. 1347-1352 (2001)	
<i>MJC</i>	C19	Dieter W. Gruenwedel, "Multidentate Coordination Compounds. Chelating Properties of Aliphatic Amines Containing $\alpha$ -Phridyl Residues and Other Aromatic Ring Systems as Donor Groups", <i>Inorganic Chemistry</i> , Vol. 7, No. 3, pp 495-501 (1968)	
<i>MJC</i>	C20	N. L. Harrison et al., "Zn <sup>2+</sup> : an Endogenous Modulator of Ligand- and Voltage-gated Ion Channels", <i>Neuropharmacology</i> , Vol. 33, No. 8, pp. 935-952 (1994)	
<i>MJC</i>	C21	Robert P. Houser et al., "Structural Characterization of the First Example of a Bis( $\mu$ -thiolato)dicopper(II) Complex. Relevance to Proposals for the Electron Transfer Sites in Cytochrome c Oxidase and Nitrous Oxide Reductase", <i>J. Am. Chem. Soc.</i> , Vol. 117, No. 43, pp. 10745-10746 (1995)	
<i>MJC</i>	C22	Emily P. Huang, "Metal ions and synaptic transmission: Think Zinc", <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 94, pp. 13386-13387 (1997)	
<i>MJC</i>	C23	Zoltan Kovacs et al., "A General Synthesis of Mono- and Disubstituted 1,4,7-Triazacyclononanes", <i>Tetrahedron Letters</i> , Vol. 36, No. 51, pp. 9269-9272 (1995)	
<i>MJC</i>	C24	Indumathy B. Mahadevan et al., "The Synthesis of Zinquin Ester and Zinquin Acid, Zinc(II)-Specific Fluorescing Agents for Use in the Study of Biological Zinc(II)" <i>Aust. J. Chem.</i> , Vol. 49, pp. 561-568 (1996)	
<i>MJC</i>	C25	M. Sarwar Nasir et al., "The chemical cell biology of zinc: structure and intracellular fluorescence of a zinc-quinolinesulfonamide complex", <i>JBIC</i> , Vol. 4, pp. 775-783 (1999)	
<i>MJC</i>	C26	Richard D. Palmiter et al., "Cloning and functional characterization of a mammalian zinc transporter that confers resistance to zinc", <i>The EMBO Journal</i> , Vol. 14, No. 4, pp. 639-649 (1995)	
<i>MJC</i>	C27	Richard D. Palmiter et al., "ZnT-2, a mammalian protein that confers resistance to zinc by facilitating vesicular sequestration", <i>The EMBO Journal</i> , Vol. 15, No. 8, pp. 1784-1791 (1996)	
<i>MJC</i>	C28	J. Siva Prasad et al., "Synthesis of Gadolinium ( $\pm$ )-10-(1-Hydroxypropan-2-yl)-1,4,7,10-tetraazacyclododecane-1,4,7-triyliacetate via Tribenzyl 1,4,7,10-Tetraazacyclododecane-1,4,7-tricarboxylate", <i>J. Chem. Soc. Perkin Trans.</i> , Vol. 1, pp. 3329-3332 (1991)	

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		Applicant Stephen J. Lippard et al.	
		Filing Date July 9, 2001	Group Art Unit 1645 / 641
<p style="text-align: center;"><i>O I P E Series</i></p> <p style="text-align: center;">FEB 11 2002</p> <p style="text-align: center;"><i>PATENT</i></p> <p>J. Kirk Romary et al., "New 2-Pyridyl Polyamines. Synthesis, Spectra, and Proton Dissociation Constants", <i>J. Chem. Soc.</i>, pp. 2884-2887 (1968)</p>			
<i>MIC</i>	C29		
<i>MIC</i>	C30	Dean L. Pountney et al., "Isolation, primary structures and metal binding properties of neuronal growth inhibitory factor (GIF) from bovine and equine brain", <i>FEBS Letters</i> , Vol. 345, pp. 193-197 (1994)	
<i>MIC</i>	C31	Rajendra Nath Sen et al., "Aldehydofluorescein and Dyes Derived from it", <i>J. Indian Chem. Soc.</i> , Vol. 6, pp. 505-516 (1929)	
<i>MIC</i>	C32	Ulrich Horlein, "Zur Kneentis der Tetrahydrocarolin-Verbin-Dungen", <i>Chemische Berichte</i> , pp. 463-472	
<i>MIC</i>	C33	L. Slomianka, "Neurons of Origin of Zinc-containing Pathways and the Distribution of Zinc-containing Boutons in the Hippocampal Region of the Rat", <i>Neuroscience</i> , Vol. 48, No. 2, pp. 325-352 (1992)	
<i>MIC</i>	C34	Bert L. Vallee et al., "The Biochemical Basis of Zinc Physiology", <i>Physiological Reviews</i> , Vol. 73, No. 1, pp. 79-118 (1993)	
<i>MIC</i>	C35	Grant K. Walkup et al., "A New Cell-Permeable Fluorescent Probe for Zn <sup>2+</sup> ", <i>J. Am. Chem. Soc.</i> , Vol. 122, No. 23, pp. 5644-5645 (2000)	
<i>MIC</i>	C36	M. Ebadi, "Metallothioneins and Other Zinc-Binding Proteins in Brain", <i>Methods in Enzymology</i> , Vol. 205, pp. 363-387	
<i>MIC</i>	C37	H. U. Wolfe, "Divalent Metal Ion Buffers with Low pH-Sensitivity", <i>Experientia, Monthly Journal of Pure and Applied Science</i> , Vol. 29, No. 2, pp. 241-249 (1973)	
<i>MIC</i>	C38	Peter D. Zalewski et al., "Correlation of apoptosis with change in intracellular labile Zn(II) using Zinquin [(2-methyl-8-p-toluenescuphonamido-6-quinolyl)acetic acid], a new specific fluorescent probe for Zn(II)", <i>Biochem. J.</i> , Vol. 296, pp 403-409 (1993)	
<i>MIC</i>	C39	Fen Wang et al., "Tuning of Binding Selectivity: Metal Control of Organic Guest Binding and Allosteric Perturbation of Fluorescent Metal Sensor", <i>J. Org. Chem.</i> , Vol. 64, No. 24, pp. 8922-8928 (1999)	
EXAMINER	<i>Mary E. Cepelley</i>	DATE CONSIDERED <i>12/26/02</i>	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.			

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Form PTO-1449 <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>		Docket Number (Optional) MTV-033.01 (20021-3301)	Application Number 09/901,466
		Applicant Stephen J. Lippard et al.	
		Filing Date July 9, 2001	Group Art Unit 16451641

## **U.S. PATENT DOCUMENTS**

RECEIVED

## **FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
<i>MHC</i>	B1	EP 0 201 751 A2	11/20/86	European Patent Application			X
<i>MHC</i>	B2	EP 0 297 303 A2	01/04/89	European Patent Application			X

## **OTHER DOCUMENTS**

(Including Author, Title, Date, Pertinent Pages Etc.)

<i>MHC</i>	C39	Walkup et al.; "A New Cell-Permeable Fluorescent Probe for Zn 2+", J. Am. Chem. Soc. 122: 5644-5645, ( 2000)
<i>MHC</i>	C40	International Search Report Completed on March 8, 2002 and Mailed on April 03, 2002

EXAMINER

Mary E. Copeley

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12/27/02

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